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A DRIVING HEAD FOR STIRRER CANS

FIELD OF THE INVENTION

The invention relates to those cabinets for stirrer cans of the type as used for the storing of cans that contain paints etc.
5 or similar to be maintained under stirring.

BACKGROUND OF THE INVENTION

The cabinets that are currently used comprise a plurality of shelves arranged ~~the~~ one above the other, and having a bottom portion that is provided with driving heads of the small blade type, which driving heads cooperate with fingers arranged on the cover of each can and used for driving a shaft passing through this cover and supporting a stirring screw or the like.

In order to prevent rotation of the cans on the shelves, fixed or movable protruding pins are provided, which are used ^{securely} for ~~tighteningly~~ retaining the base of the can. These protruding pins are often harmful and can cause damage to the cans, particularly when the same are made of synthetic material.

The protruding pins or other means for locking the cans have also the important drawback that they make difficult the cleaning of the shelves to which they are fixedly connected. Moreover, in case of leakage of the can, the apertures provi-

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A ded in the shelves for making or positioning the protruding
pins ^{allows flow of paint} ~~make that flows of paint can be produced~~ from one shelf
to another shelf.

5 The invention relates to a new driving head for stirrer cans
which ^{allows the} ~~makes possible to use~~ smooth shelves without any parti-
cular member to be provided on these shelves.

SUMMARY OF THE INVENTION

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According to the invention, the driving head for stirrer cans each comprising a small blade driven by a first shaft and cooperating with fingers for driving a second shaft of a stirrer located in a can, is characterized in that the fingers protrude from a plate engaged in a grip that is a part of a body having a general shape like a swan-neck which is arranged beneath a shelf, this body having an upper portion that is ^{penetrated} ~~crossed through~~ by the first shaft that carries and drives the small blade as well as means that prevent rotation of each stirrer can.

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Various other features of the invention will moreover be revealed from the following detailed disclosure.

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BRIEF DESCRIPTION OF THE DRAWINGS

Embodiments of the invention are shown, as non limitative examples, in the accompanying drawings, wherein :

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Fig. 1 is a perspective view of a cabinet that comprises driving heads for stirrer cans, according to the invention ;

10 Fig. 2 is a very enlarged partial cross-section taken substantially along line II-II of the Fig. 1 ;

Fig. 3 is an exploded perspective view of the driving head, according to the invention ;

15 Figs. 4-7 are elevations, partly in cross-section, diagrammatically showing how to position a stirrer can ;

Fig. 8 is a very enlarged cross-section taken along line VIII-VIII of Fig. 5 ;

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Fig. 9 is a cross-section similar to Fig. 8 but showing a stirrer can engaged with the driving head ;

25 Fig. 10 is a diagrammatic partial cross-section showing a development of a cabinet that applies the invention ;

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Fig. 11 is an exploded perspective view illustrating a development of the invention ;

5 Fig. 12 is a partial exploded perspective view illustrating the development of the invention according to Fig. 11 in an other embodiment.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

10 Referring now to the drawings, Fig. 1 shows a cabinet that includes upright members 1 and 2 with shelves 3 being arranged between the upright elements 1 and 2 and which are formed by hollow bodies as shown in Fig. 2.

15 Stirring heads 4 are protruding beneath the shelves 3.

Each of the stirring heads 4 is driven by a pulley 5 arranged within a shelf 3. The various pulleys correspondings to each stirring head are themselves driven, for example, by means of
20 a ~~common~~ belt 6.

The pulleys 5 are mounted on a shaft 7 carried by a bearing member 8 arranged in each of the stirring heads 4 that comprises therefor a sleeve 9.

As shown in particular in Figs. 2 and 3, the stirring heads are, preferably, formed by molded parts of plastic material or metal, the body 10 of which has the general shape of a swan-neck ending in a grip 11 having the shape of an outer collar made integrally with the body 10 or ~~added~~ ^{attached} thereto. The grip 11 is a resilient part ~~and is extended~~ ^{has} on an angular opening which is slightly greater than 180° . This grip 11 is advantageously made of an antifriction material or is coated with such an antifriction material.

The body 10 defines a bearing member ~~10a~~ formed, for example, of a small socket made ~~from~~ ^{by} molding, used for articulating a stirrup 12 that is advantageously made of molded material ~~for compromises~~ ^{and} ~~delimiting~~ ^{12a} a yoke ~~12a~~ with arms that ~~have~~ ^{has} studs or protrusions (not shown) that form ^{on axles} a pin articulated in the bearing member ~~10a~~.

This embodiment enables to position the stirrup 12 by ~~clipping~~ Snapping into place ~~pinning it~~, the stirrup 12 having to be able to pivot as this is shown in the following description.

In the example as shown, the stirrup 12 comprises two arms ~~12b~~ ^{12b}. The stirrup 12 could however comprise only one arm or be made by another means preventing a rotation of the cans as this is discussed hereinafter.

The drawings, in particular Fig. 2, show that the shaft 7 has a lower portion carrying a spindle 13 on which is articulated a small blade 14, preferably made of plastic material but which may also be made of metal, which small blade 14 is for example ~~clipped~~^{snapped} on the spindle 13 in order to be easily mounted and dismounted if it is necessary to change it. In any case, the small blade 14 is mounted for being able to pivot about the spindle 13. Moreover, the small blade 14 is provided with a concavity ^{14a} at its bottom portion ~~so as to~~^{so as to} prevent a possible wedging ~~with fingers~~^{of the fingers of the operator} as described hereinafter.

Figs. 2 and 3 show that the body 10 of the driving head advantageously defines, above the small blade 14, a hub 15 which is approximatively circular and has a diameter greater than ^{the} width of the small blade 14.

This arrangement makes ~~it impossible~~ ~~that it is not possible~~ for an operator ~~to get a finger caught~~ ~~to engage a finger~~ between a top portion of the small blade 14 and the body 10, in particular the hub 15, which is thus a safety measure preventing any risk of injury. Moreover, the hub 15 is used for fixing the body 10 under the shelf 3 by means of rivets or other equivalent means.

A The stirring cans, such as the can 16, are comprised with a cover 17 that is penetrated through by a shaft 18. The cover 17 has a top portion provided with various protruding parts, and in particular a pouring nose 19 as well as a working handle
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CC The shaft 18 has an upper portion provided with a circular plate 22 which is fixed by means of a tightening screw 22a and has a centering ring 21. The centering ring 21 has an A 10 annular shape, and the diameter of the centering ring 21 corresponds substantially to the diameter defined by the grip 11. The centering ring 21 ^{can rotate freely} ~~is free in rotation~~ or is made of an antifriction material, or still is coated with an antifriction material.
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15 The plate 22 is provided with two protruding fingers 23 and with cams or ramps 24.

20 As shown in the drawings, in particular in Figs. 3-9, the cans 16 provided with their cover 17 are placed on one of the shelves 3, for example the shelf 3a, and are progressively pushed as shown in Figs. 5 and 6 in order that the centering ring 21 will enter inside the grip 11.

When a can 16 is positioned, the rotation of the small blade 14, driven by the shaft 7, causes the small blade 14 to necessarily bear by its two ends against both of the protruding fingers 23, which results in driving the plate 22 and, 5 consequently, the shaft 18 of the ~~relative~~ can. The concavity ^{respective} ~~14a~~ of the small blade 14 prevents any risk of wedging by staying with the fingers 23. Moreover, the presence of the cams or ramps 24 that are sloped in the direction of rotation of the plate 22 aids to the raising of the small blade 14 10 that continuously rotates.

Fig. 5 shows that before engagement of the centering ring 21 in the grip 11, the stirrup 12 is substantially maintained vertically. Advancing the can 16 which slides on the shelf 3a 15 causes the stirrup 12 to pivot as shown in Fig. 6. As soon as the plate 22 is driven in rotation by the small blade 14 and fingers 23, ~~this possibly causes~~ the can ^{is possibly rotated} ~~16a~~ to rotate a little bit, but in any case, one ~~of the~~ attachment 19, for 20 example the pouring nose, will limit the possible rotation of the can of which only the shaft 18 continues to be driven, which is shown in Figs. 6 and 7.

Fig. 7 shows moreover that the invention enables to cause cans, having various heights, to be driven by any one of the 25 stirring heads 4. It is then sufficient to position a raising member 25 on the shelf ^{3a} ~~3a~~.

Fig. 10 illustrates a development showing that the bottom portion of a shelf ^{3b} may comprise two stirring heads 4 arranged at various levels, these offset stirring heads enabling to drive the stirring shafts of cans ^{16a, 16b} of various heights, ^{preferably} positioned ^{the} one behind the other ^{one relative} ~~preferably or shifted the one with respect to the other for~~ facilitating access to a rear row.

Fig. 11 shows a development of the invention according to which the grip 11 is insidely provided, at its lower portion, with lugs or other supporting means 26 that protrude inwardly. The means 26 are adapted for bearing against the bottom portion of a protruding portion of the cover 17 or, as shown, against the bottom portion of the centering ring 21. The cover 17 covering the can 16 is positioned in the grip 11 as described above.

In this embodiment, a unit formed by the can, the cover and the driving ~~mechanism~~ is thus ^{suspended by} ~~suspended to~~ the grip 11 without the can 16 being supported on a shelf 3. As previously, the can 16 is prevented ~~to rotate~~ ^{from rotating} by means of the stirrup 12, and the shelves 3 can be manufactured for having a top portion which is smooth and easily cleanable.

For preventing an axial displacement of the shaft 18 that drives the stirring screw ^{18a} ~~18a~~, it is advantageous to position

a spring 27 engaged on the shaft 18 and bearing, on the one hand, on the bottom portion of the cover 17 and, on the other hand, on the stirring screw 18^a. The strength of the spring 27 is ~~so~~ chosen according to ^a the weight of the can 16 and ~~of~~ the product contained therein.

Fig. 12 illustrates an other variant which shows that the bottom portion of the shelves 3 defines a bent edge 28 for grip supports 29, each provided to ^{clamp} ~~press~~ a can 16 by bearing against the bottom portion of the cover 17.

It is advantageous that the grip supports 29 which are made of a resilient material will be covered with an elastomeric material or the like so to form, on the one hand, a protection and, on the other hand, end protrusions 30 for retaining the can 16. The grip supports 29 are arcuate and ~~have~~ ^{extend} on an angular opening greater than 180°.

It is moreover possible that the centering ring 21 is ~~added~~ ^{attached} to the plate 22 and, in case, will be spaced therefrom by a ball bearing or the like in order that there is no friction between the plate 22 and the grip 11.

The invention is not restricted to the embodiments shown and described in detail, since various modifications thereof can

be carried thereto without departing from the scope of the invention as shown in the following claims.